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ABSTRACT

Two distinct anxiety factors, labeled trait anxiety and state anxiety, were identified. The trait anxiety factor was interpreted as measuring stable individual differences while the state anxiety factor defined a transitory state of the organism that varied over time. A trait-state conception of anxiety was then proposed that specified the relationship between state anxiety (A-state) and trait anxiety (A-Trait). The purpose of this study was to derive and evaluate various predictions with respect to trait anxiety. It was predicted that, in general, subjects high in A-trait would evidence more stereotyped, and hence less variable, self-images than low A-trait subjects. Two procedures for determining A-trait were utilized. The subjects were drawn from a Special Talent Development Program, a college opportunity program for minority youth. The results led to the conclusion that the state-trait distinction is a fruitful one for predicting both differences in performance and in the self-images for individuals who differ in A-trait. (Author/BW)

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(1) Differences in self-image between groups high and low in trait anxiety

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(4) An inventory and naturally-occurring environmental circumstances determined trait anxiety. As predicted from the range of cue utilization concept, both high anxiety groups evidenced more stereotyped self-images. An interaction between anxiety and type of self-image for naturally-occurring groups indicated the culturally disadvantaged group saw itself as deprived.

(5) Personality, anxiety, self-perception

(6) Slides will be used

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Based on evidence from factor analytic studies, Cattell and Scheier (1961) identified two distinct anxiety factors which they labeled trait anxiety and state anxiety. The trait anxiety factor was interpreted as measuring stable individual differences in a unitary, relatively permanent personality characteristic while the state anxiety factor defined a transitory state of the organism that varied over time. Spielberger (1966) then proposed a trait-state conception of anxiety that specified the relationship between state anxiety (A-state) and trait anxiety (A-trait). According to Spielberger (1966), A-states are characterized by subjective, consciously perceived feelings of apprehension and tension and heightened autonomic nervous system arousal. Anxiety as a personality trait (A-trait) implies a motive or acquired behavioral disposition that predisposes an individual to perceive a wide range of circumstances as threatening and to respond to these with A-state reactions disproportionate in intensity to the magnitude of the objective danger. Spielberger (1966) assumes A-trait reflects residues of past experience that in some way determine individual differences in anxiety proneness and suggests that those experiences which have the most influence on level of A-trait probably date back to childhood.

Results of investigations based on hypotheses derived from Spielberger (1966) have underscored the utility of the trait-state distinction for anxiety research (Hodges, 1968; Hodges and Spielberger, 1969). An analogous distinction between trait and situational denial provided the basis for hypotheses which received experimental support in studies reported by

Houston and Hodges (1970) and Houston (1971). The author derived hypotheses specifying relationships between trait anxiety and trait denial consistent with both the trait-state conception of Spielberger (1966) and the relationships between stress and coping ability formulated by Lazarus (1966). In general, the predictions were supported by several diverse measures of both trait anxiety and trait denial. The total configuration of results thus underscores the utility of the trait-state formulation in generating hypotheses about subject's performance which are supported by experimental data.

This observation then suggests deriving hypotheses pertaining to the subject's self-perception from the trait portion of the trait-state conceptions. If trait anxiety and trait denial are relatively stable personality traits or dispositions, and if subjects differing in trait anxiety or trait denial also differ in their performance in ways the trait-state formulations appear successful in predicting, then there should also be predictable differences in the self-images of subjects differing in trait anxiety or trait denial. The purpose of the present study was to derive and evaluate such predictions with respect to trait anxiety.

Hypotheses specifying relationships between trait anxiety and self-image were derived consistent with both the trait-state theory proposed by Spielberger (1966) and the concept of "range of cue utilization" utilized by Easterbrook (1959) and Bruning et al. (1968). Range of cue utilization is the total number of environmental cues in any situation that an organism observes, maintains an orientation towards, responds to, or associates with a response. In Easterbrook's formulation, perception of threat raises

drive level and reduces range of cue utilization. Hence persons high in A-trait who, according to Spielberger (1966), perceive a wide range of circumstances as threatening, should typically have a more restricted range of cue utilization than low A-trait persons. If self-image evolves over a long sequence of organism-environmental interactions, then an anxiety prone (high A-trait) individual should develop a self-image which is the resultant of many situations characterized by reduced cue utilization. Easterbrook (1959) contends that the reduction in cue utilization is most evident with respect to peripheral or incidental cues; heightened drive level tends to concentrate attention on central cues. Thus it was predicted that, in general, subjects high in A-trait would evidence more stereotyped, and hence less variable, self-images than low A-trait subjects.

Two procedures for determining A-trait were utilized. The first was based on an 18-item anxiety symptoms inventory modeled after Janis and Feshback (1954), Indik, Seashore, and Slesinger (1964), and the Medical History Questionnaire (HES-204) used in the National Health Survey (1970). Criteria for identifying subjects as high or low in A-trait on the basis of the inventory were as follows: Each item on the inventory was rated by the subject on a five-point scale with 1 indicating low anxiety and 5 indicating high anxiety. A total score of 29 or less and 15 or more low responses (1 or 2) were necessary for inclusion in the low A-trait group. Criteria for the high A-trait group were a total score of at least 32 and fewer than 15 low responses. Ten high A-trait subjects and ten low A-trait subjects were identified from student volunteers from an introductory psychology class.

The second procedure for identifying groups high and low in trait anxiety was based on naturally occurring events. An accumulation of evidence

underscores the contention that the populations currently subsumed under the label "culturally disadvantaged" derive from environments which tend to foster anxiety proneness. Perhaps the most comprehensive evidence cited in support of this contention was the National Health Survey data on symptoms of psychological distress (1970). Among the symptoms investigated in the survey were nervousness, feelings of an impending nervous breakdown, hand trambling, perspiring hands, and heart palpitations, which clearly operationalize Spielberger's conceptualization of A-trait as anxiety proneness or the disposition to respond with A-state in stressful situations. In summarizing the results of the study, the report stated, "Findings of particular interest were that higher sym ptom rates were reported by the relatively lower educated and lower income groups, as could be expected based on other studies" (p. v). Clearly, low educational level and low income are two of the hallmark characteristics of any population identified as culturally disadvantaged. One could conjecture that the environments in which such populations exist are characterized by a higher frequency of stressful situations that provoke anxiety. Hence it might be anticipated that an extended period in such an environment would tend to foster a fairly chronic high level of A-trait: individuals acquire a heightened tendency to respond in ways frequently and consistently elicited by their environments. Thus subjects to be included in the high A-trait group for this study were from a Special Talent Development Program whose purpose is to give minority youths, mostly Blacks who would never have attended college otherwise, a chance to attend college with a fair hope of successfully completing their studies. Some of these students had been in

prison, others had been out of school for years; all could fairly be characterized as culturally disadvantaged. Ten undergraduate volunteers from the Special Talent Development Program were high A-trait subjects, and ten conventionally matriculated undergraduates were low A-trait subjects.

There were no significant differences among the four groups of subjects with respect to sex or age. All subjects in the group from the Special Talent Development Program were black; the remaining 30 subjects were all white. None of the subjects was married, and all the subjects were residents of Rhode Island.

Assessment of the subject's self-image was based on a 90-item adjective check list modeled after Nowlis and Nowlis (1956). Words to be included on the list were determined on the basis of two pre-testing procedures. The first pre-test list included 175 words which were rated as positive, negative or neutral by 25 subjects comparable to those used in the present investigation, ie, black and which undergraduates. Words about which there seemed to be little agreement were eliminated, and a second list of 125 words was rated as positive, negative, or neutral by a second set of 38 subjects. From these ratings, the final list of 90 words was selected to include 40 positive words, 40 negative words, and 10 neutral words.

Subjects were interviewed individually primarily to obtain information concerning several aspects of their adjustment to the university community. The adjective check list was included in the interview schedule with the following instructions, "Following is a list of words which describe all aspects of people - strengths and weaknesses included. Please give your first response to each word as I read it. Indicate whether the word:

"definitely" describes you; "possibly" describes you; does not apply to you; or "definitely" does not apply to you." The

To maximize the liklihood that any differences in variability which might be observed between high and low A-trait subjects in response to the adjective check list would in fact reflect differences in variability of self-image between the groups and not differences in awareness of social expec tations of what an individual in our society should be like, the dependent variables were the number of positive words checked as being either "non-applicable" or "definitely non-applicable" and the number of negative words checked as being "definitely applicable". Specifically, it was hypothesized that, for both dependent variables, the low A-trait group would evidence more variability than the high A-trait group.

Since one of the procedures for identifying high and low A-trait subjects was based on cultural differences presumed to exist between naturally-occurring groups, it was further predicted that for these two groups there would be an interaction between level of A-trait and certain clusters of adjectives. Included within the 40 negative words on the check list were six triads representing aspects of self-image which it was hypothesized would be differentially perceived by these two groups. The triads were: alienated, alone, unwelcome; angry, frustrated, resentful; afraid, threatened, victimized; anxious, nervous, upset; discouraged, overwhelmed, pessimistic; and deprived, susceptible, vulnerable. (No comparable prediction for groups identified as high or low in trait anxiety on the basis of the anxiety symptoms inventory would be made.)

RESULTS

The hypothesis that the low A-trait group would evidence more variable self-images was supported by both dependent variables for both subjects identified as high or low in trait anxiety on the basis of the anxiety symptoms inventory and subjects identified as high or low in trait anxiety on the basis of naturally occurring circumstances (see Table 1).

The second hypothesis was evaluated using an analysis of variance in which high vs. low A-trait was the between subjects factor, and type of word triad was the within subjects factor. While there was no evidence for a differential response between anxiety levels, there was a significant difference in response to the various triads and the predicted interaction between anxiety level and triads was also significant (see Table 2). The nature of the interaction is presented graphically in Figure 1. A posteriori tests indicated the difference between the high and low A-trait groups in response to the deprived triad was significant ($t = 2.12$, $p < .05$) and in the predicted direction.

DISCUSSION

The trait-state theory of Spielberger (1966) has demonstrated its utility in predicting performance differences for subjects who differ in trait anxiety. The extension of Spielberger's rationale to research in the area of denial evidences similar utility. The present study suggests

the feasibility of utilizing the trait portion of the trait-state anxiety formulation coupled with the range of cue utilization formulation proposed by Easterbrook (1959) as the theoretical basis for deriving predictions concerning the self-images of individuals who differ in trait anxiety. Specifically, the results of this study support the tenability of the assumption that individuals high in trait anxiety, or anxiety proneness as defined by Spielberger (1966) appear to develop self-images over a sequence of organism-environment interactions characterized by a restricted range of cue utilization. In contrast, low anxiety subjects evidence more variability in their self-images, probably reflecting a more accurate assessment of their sequence of organsim-environmental interactions, particularly with respect to peripheral or incidental cues. When high and low trait anxiety was determined on the basis of presumed cultural differences between naturally occurring groups, there was an interaction between type of self-image held and anxiety level. The high A-trait group being drawn from culturally disadvantaged environments and being black in an overwhelmingly white campus environment, did see themselves as being definitely deprived, susceptible, and vulnerable. They also saw themselves as being anxious, but not alone, angry, afraid, or discouraged. In contrast, the low A-trait group, being conventionally matriculated white undergraduates, tended to see themselves as nervous and discouraged, but not so much alone, or afraid, or deprived.

Hence it seems that the trait-state distinction is a fruitful one, not only for predicting differences in performance for individuals who differ in A-trait, but also for predicting differences in the self-images reported by such individuals.

	Positive Words Checked Non-Applicable or Definitely Non-Applicable	Negative Words Checked Definitely Applicable
High and low A-trait groups determined on the basis of the anxiety symptoms inventory	Low: $\bar{X}$ = 4.2; σ^2 = 31.73 High: $\bar{X}$ = 4.8; σ^2 = 3.73 F = 8.50 p < .005	$\bar{X}$ = 4.3; σ^2 =47. $\bar{X}$ = 3.1; σ^2 = 8. F = 5.27 p < .02
High and low A-trait groups determined on the basis of naturally-occurring circumstances	Low: $\bar{X}$ = 4.8; σ^2 = 35.29 High: $\bar{X}$ = 4.7; σ^2 = 4.01 F = 8.80 p < .005	$\bar{X}$ = 4.8; σ^2 =44. $\bar{X}$ = 3.7; σ^2 =13. F = 3.36 p < .05

Table 1.

Source	SS	df	MS	F	p
Between subjects	18.82	19			
Anxiety level	0.07	1	0.07	<1	
Subjects within groups	18.75	18	1.04		
Within subjects	30.17	100			
Triads	4.64	5	0.93	3.84	<.005
Anxiety X Triads	3.78	5	0.76	3.14	<.025
Triads X subjects within groups	21.75	90	0.242		

Table 2. Analysis of variance. Dependent variable is the number of words checked definitely applicable.

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